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ABSTRACT

The feedback lecture represents an attempt to address problems affecting traditional classroom lecture techniques. Typical complaints associated with the latter include boredom, one-way communication, problems with notetaking, pacing problems, lack of guidelines and outlines, lack of enthusiasm and student involvement, and an overload of detail to the detriment of supporting concepts. Prior to the proposed feedback lecture, student receive a study guide. During the lecture, which involves a short presentation by the teacher followed by small-group discussion among the learners, students are guided by outlines and teacher notes. The technique, an outgrowth of programmed instruction, is based on classification of learners according to those inclined toward innovation, analysis, common sense, or dynamism. It appears that feedback lectures help students to develop study skills that permit efficient comprehension, storage, recall, and application of textual material. Instructional objectives, lecture outlines, post-lecture activities, and guided notetaking are central to the technique. Two case studies and a study guide for listening and notetaking are included. (TJH)

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The Feedback Lecture

by
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When students and faculty members are asked what they dislike about traditional classroom lectures, they list a lot of the same things: boredom, one-way communication, problems with notetaking, slow pace, lack of guidelines or outlines, lack of enthusiasm, little student involvement, too much content and detail without supporting concepts and concrete examples. The feedback lecture is one way to solve these problems to the satisfaction of both faculty and students. This paper outlines the components of the feedback lecture, gives a detailed example, and describes the experiences of two teachers who used it in the college classrooms. (See also Osterman, 1978 and 1980)

How It Works

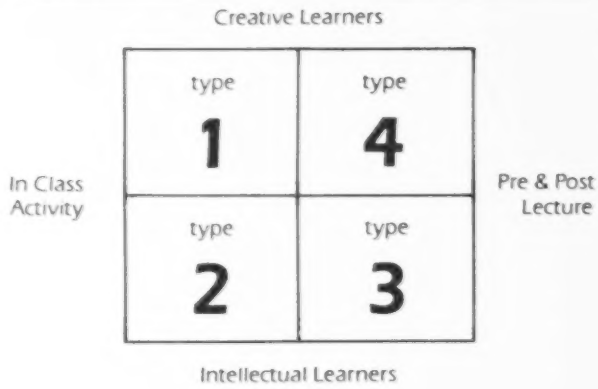
For each feedback lecture students first receive a study guide that suggests specific study methods and procedures. The guide contains a pretest, a suggested procedure for studying, instructional objectives, a list of advanced terminology, visuals, and an introductory theme page.

Students are guided in the lecture by an outline prepared by the teacher. The instructor completes the first half of an hour's lecture in 20 minutes. In groups of two or three, students then discuss a question related to what they read prior to class and what they heard in the first half of the lecture. They turn in a response sheet after five to eight minutes. During this time the instructor circulates among the various groups and responds to any questions that arise. As the students turn in their response sheets, they are provided with appropriate answers to the discussion question. Some instructors give credit for adequate answers on the response sheets.

In the second half of the lecture, students are again guided by the teacher's notes in outline form. Questions raised by the instructor during this second half may provide further feedback as to whether students are learning the material. Finally, post-lecture activities in the study guide provide a bridge between lectures.

Researchers have identified four types of students with regard to learning style: Type 1 learners who prefer learning by discussion, Type 2 learners who prefer lecture, Type 3 learners who prefer demonstration and "how to" activities, and Type 4 learners who learn best through self-discovery. Figure I illustrates the components of the feedback lecture addressed to each of these four types. (See McCarthy, 1981, pp. 34-35).

Figure I



Type 1 Learner (innovative, feeler)
Discussion session: meaningful applications (are provided), one-on-one discussions, instructor circulates, reward for interacting (points toward final)

Type 2 Learner (analytical, thinker)
Lecture Session: 20 minutes of information, traditional activities, 20 minutes of information

Type 3 Learner (common sense, sensor)
Direction Session: coaching provided (procedural page in study guide), 5-8 minute problem solving (discussion session in class), objectives, procedures provided in study guide

Type 4 Learner (dynamic, intuitor)
Individual session: pre and post tests, motivation activities (in class & out), guided challenges (before and after class), alternatives provided

Students experience their on preferred style and have the opportunity to grow by experiencing each of the other learning styles in the feedback lecture. This individualizes the learner's experience and resolves most of the problems associated with the lecture.

The feedback lecture is an outgrowth of programmed instruction. (Osterman first experimented with adding programmed instruction to the lecture in 1972.) Programmed instruction typically includes materials that students can use to teach themselves, self-pacing, immediate feedback, and the breaking down of materials into small units. (See Osterman, 1978.) In the feedback lecture students work on their own prior to the lecture using the study guides. They work at their own pace and they receive immediate feedback on the pretest. They know what to expect from the lecture before they attend.

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How It Helps

Feedback lecture helps students to develop study skills that permit efficient comprehension, storage, recall, and application of textual material. The **instructional objectives** and the **pretest** help the student focus attention on key ideas. They maximize recall by indicating what content is most important to learn. **Lecture outlines** help the student organize information for storage and retrieval. They assist the student in conceptualizing the new material to be learned. The **discussion** period helps the student to integrate new information with existing, related knowledge. Integration requires higher level cognitive processes such as application and critical thinking. Through discussion students test their ideas and get feedback and samples of other student ideas. **Post lecture activities** (cool down sessions) also help students integrate new information. These include discussions, self-discovery assignments, challenges, problem-solving, and other guided experiences that extend the lecture. Readings, speakers, videotapes, micro-computer software, visuals and other devices may be suggested and made available for the students. Another component of feedback lecture helpful to integrating new material is **guided notetaking**. Notetaking that is guided by the lecture outline may encourage attentiveness, stimulate organizational processes by requiring students to summarize and categorize the most important materials, and assist students in translating content into a form more compatible with their own cognitive structures.

The following sections 1-11 contain an illustration of a Study Guide. Line breaks indicate a new page in the Study Guide.

Listening and Notetaking: A Study Guide

By
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1. Procedures For This Unit

1. Read the introduction page.
2. Read the objectives so you will know what to look for in the lecture.
3. Write definitions for the terms listed on the objectives page.
4. Take the pre-test and check your answers.
5. Use the lecture outline for taking notes in lecture.
6. Enter into discussion during the discussion period and turn in a response sheet with names on it.
7. Check your responses with the feedback in your study guide.
8. Complete the post-test.
9. Begin to be aware of personal listening habits, notice how much is "tuned out."
10. Practice listening and notetaking skills during the lecture.
11. Analyze lectures from other classes as to their basic parts and whether inductive or deductive. Apply notetaking skills to other class lectures.
12. Do assignments in preparation for next lecture.

2. Introduction

Listening and Notetaking are key elements in developing good study skills. It is important to begin to listen carefully in order to discern relevant facts and information and to take an active part in learning. According to research we remember only about 10% of what we hear, hence the importance of writing down notes to remind us of the other 90%. This lecture will deal with listening and notetaking skills.

Prerequisite Reading Assignment
Systems for Study, Alton L. Raygor & David M. Wark. pp. 7-13.

3. Objectives

General:

1. Students will be able to listen and take notes more effectively through application of the skills learned in this class.

Specific:

1. Students will be able to identify and explain the major components of a lecture.
2. Students will be able to explain the difference between hearing and listening.
3. Students will be able to recognize main points and write them down in a coherent manner together with supporting details.
4. Name and explain the two methods used for developing ideas or arguments.
5. List 3 signal words and explain their importance.
6. Identify the different kinds of clues which help you to understand an unorganized lecture.

Terminology

Thesis
Inductive
Deductive
Irrelevancies
Signal or transition words

4. Pre-Test

1. Is there a difference between hearing and listening? What is the difference?
2. Name two methods of developing an idea or argument.
3. List 3 "clues" which help you decide important lecture points to write down.
4. What is the purpose of a summary sentence or two for an entire lecture?

Answers:

1. Yes. Listening implies action on the part of the hearer. This action can be mental (thinking) or physical (reacting by writing down what is said).
2. Inductive method and deductive method.
3. Clues may include listing or numbering ideas, giving examples, or giving summarizing boxes you to think about the material enough that you condense it down. This helps you to retain the material and can help you to study for tests.
4. Summarizing boxes you to think about the material enough that you condense it down. This helps you to retain the material and can help you to study for tests.

5. Lecture Outline

I. Hearing vs. Listening
- A. Listening Implies Action
- B. Active Listening
- C. Listening Habits
- D. Environment
- E. Emotional Response

II. Organization of Lecture
- A. Introduction
- B. Thesis
- C. Body
- D. Summary/Closure
- E. Irrelevancies

III. The Unorganized Lecturer
- A. Visual Clues
- B. Vocal Clues
- C. Posture Clues

Note: Please pair up into two's at this point and begin your discussion. When completed, turn in your response and pick up discussion question feedback. You have 8 minutes before the lecture begins again.

6. Discussion Questions

Each person will be given a short paragraph to read to the other. The listener must use/apply the concepts we have been discussing about active listening and identifying parts of the lecture.

1. Write down the main topic of the paragraph.
2. List one or two main ideas.
3. List any irrelevancies.
4. Tell whether the paragraph is developed inductively or deductively and why you chose the answer you did.

Paragraph #1 (These will be given out on separate sheets of paper to students)

Competition In Ancient Greece

Life in ancient Greece centered around competition. There was active competition during the annual Panhellenic Games. (Pan meaning "all" and Hellenic referring to "things Greek.") The games were held on a rotating basis in each of the four principal Greek cities, since the games came to the city Olympia every fourth year this led to the practice of holding our modern Olympics every four years.) Competition went beyond the games. Each city competed with the others for valuable trade with countries outside the Greek empire. A third area of competition centered around religion with each city competing to erect the largest and most beautiful temple. Even the classic Greek dramas were subject to competition. Competing playwrights had their works performed at a yearly festival and the audience was allowed to choose the best play. Thus competition permeated life in ancient Greece influencing not only athletics, but trade, religion, and the arts as well.

Paragraph #2

The Theory of Continental Drift

If you cut out the shapes of the continents from a map, they fit together into a single mass with amazing accuracy. Australia, home of kangaroos and koala bears, fits snugly into a hole left by joining South America and Africa. Then too, scientists have found similar rocks and fossils on the Australian continent and on the southernmost tips of South America and Africa leading to still further speculation that the three continents were once joined. The other continents also fit together like parts of a giant jigsaw puzzle. Furthermore, scientists can prove that the Pacific Ocean is shrinking. All of this evidence supports the theory of Continental Drift which states that the seven continents were once joined, but broke apart and are now drifting on their own. The amazing fit of outside continents, similar rocks and creatures, and a shrinking Pacific Ocean all suggest that this theory has some basis in fact.

7. Discussion Question Feedback

2 For paragraph #1 did you list any of the following main ideas?
- a Life in ancient Greece centered around competition.
- b Each city competed with the others for valuable trade with countries outside the Greek empire.
- c A third area of competition centered around religion with each city competing to erect the largest and most beautiful temple.
- d Classic Greek dramas were also subject to competition.
- e Thus competition permeated life in ancient Greece influencing not only athletics, but trade, religion, and the arts.

1 The topic of the lecture is stated in E above.

3 Irrelevancy: Pan meaning all and Hellenic referring to things Greek. The games were held on a rotating basis in each of the four principal Greek cities, since the games came to the city Olympia very fourth year this led to the practice of holding our modern Olympics every four years.

4 Deductive because it starts with the main idea and develops through details.

1 For paragraph #2 did you come up with any of the following:
Topic: Evidence which supports the theory of Continental Drift which says that the seven continents were once joined, but broke apart and are now drifting on their own.

2 Main ideas: If you cut out the shapes of the continents from a map they fit together into a single mass.
Scientists have found similar rocks and fossils on the Australian continent and the southernmost tips of South America and Africa.
The Pacific Ocean is shrinking.

3 Irrelevancy: Australia, home of kangaroos and koala bears.

4 Inductive because it starts with details & examples and leads to the main idea.

8. Lecture Outline (second half of lecture)

IV Notetaking
- A What is notetaking and why do it?
  - 1 Note is brief record written down to assist memory.
  - 2 Remember only 10% of what we hear.
- B Posing and answering questions
- C Tools
- D Identification of class, date, etc.
- E Use of abbreviations
- F Writing tips
  - 1 Listen-think-write.
  - 2 Listen for main idea.
  - 3 Review notes and summarize.
- G Outlining for recording lecture or reviewing notes.
- H Summarizing whole lecture in 2-3 sentences.

9. Post-Test

1 What are the concepts of active listening and how will you apply them to your other classes?

2 If a friend asks you how to take notes, what points do you consider would be most important to tell him/her?

3 List 3 signal or transitional words and tell why they are important.

4 Why, when and how should you go over your class notes?

Answers:

1 Active listening requires that the listener be aware of three important things: the environment, his or her own role as a listener, and the manner in which the speaker is presenting his or her message.

2 Put in identification, use abbreviations, listen-think-write (summarize and condense), write down main ideas and some supporting detail.

3 "To begin with..." "secondly..." "in summary..."

4 Review notes as soon after class as possible—clarify confusing abbreviations, correct words you can't read, note questions to ask the instructor. This helps you review and understand the lecture and will help you when you study for a test.

10. Cool-Down

The next lecture will cover effective reading and notetaking. Please read Lesson 9 in Systems for Study on making written notes before coming to class.

Examine the communication of one other person and work with them on their notetaking and listening skills. For ten extra points, describe your experience with this individual, particularly their entry and exit skills. Feel free to discuss this experience during the next class session.

11. Warm-Up

The next lecture will cover effective reading and notetaking. Please read Lesson 9 in Systems for Study on making written notes before that time.

TWO CASE STUDIES

Mark Christensen discusses his experiences with feedback lecture in a small upper level course. Betty Coffey's use of this technique with a large lower level course is also described.

Pharmacy Application

The course, Pharmacy 580, is concerned with principles of mathematical models describing how substances travel through the body. Kinetic schemes are presented and mathematically modeled. Kinetic analysis of chemical disposition in the biological systems are presented to quantify and differentiate biologic and physiologic responses elicited by the chemicals.

Six to ten students enroll in the course each quarter. Some have chemistry and mathematics backgrounds; others have biochemical and physiology backgrounds. The prerequisites for entering the course are one year of calculus, a quarter of statistics and either a year of biochemistry or physical chemistry.

Students are first given a pretest to determine knowledge acquired prior to the course. They are then presented with course outlines and 25 units of instruction presented in the feedback lecture format. At the end of the lectures, the students are given a posttest identical to the pretest. Three months after course completion, the test is administered once more. All tests are unannounced. Grades are determined by the students' performance on the final project, not by their test performance.

Christensen provides study guides that enable students to come prepared for the lecture. Note taking is reduced to a minimum as content information is provided in the lecture outlines. At the beginning of class, the lecture outline is reproduced on overhead transparencies for students to follow. The instructor lectures for 20 to 25 minutes and then hands out discussion questions on the material presented. Students break into groups of two or three to answer the questions. After four to five minutes of small group discussion, the instructor calls on one of the students to answer a question. A five-minute open discussion follows. During the term, each student is requested to present an answer to one of the discussion questions. Following the question-and-answer period, the instructors lectures for another 20 minutes. At the end of the hour, study questions over the lecture are distributed to help the students tie together the material of several units.

Christensen compared classes using feedback lecture to classes using lecture format alone. The "lecture only" classes used the same introduction and lecture outlines and the same overhead projections as the classes with lecture feedback. However, no discussion sessions or small group interactions were held and no study questions were given out at the end of class.

Prior to restructuring the course, Christensen had received negative written statements from students. They complained that too much material was covered, that the instruction was therefore superficial, that they wished to study fewer topics in greater depth, and that the pace of instruction was too rapid over materials for which they lacked requisite skills. Students were frustrated and felt the course material was beyond their comprehension.

Responses from students in the feedback lecture class were different. Rather than complaints about the difficulty of the subject matter, students commented about other aspects such as time for class projects being too short. There were positive comments regarding the coordination of the overheads and handouts. Since students could review content prior to class, less material had to be repeated and the instructor was able to cover more material comfortably. The quality of work performed on the final project was superior from students in the feedback lecture class as compared with the lecture only class. The average test score for students in the feedback lecture class was higher than the average in the lecture only class, although the difference was not statistically significant.

Discussion

The feedback lecture format provides strong incentive for good course planning. The instructor may add or delete material if desired but the format requires an initial evaluation of subject materials for appropriateness in the course.

The lecture outlines and other printed materials are helpful to the students. Discussion questions serve as a check of student progress. The students feel less threatened in dealing with complex ideas and the instructor can therefore cover more material.

Christensen suggests that the feedback lecture format should be developed slowly over a year or two. He recommends developing two or three feedback lectures for a course and seeing how they work before developing another two to five. Materials may be developed and accumulated over a period of time; concentrated effort to assemble everything at once is not necessary.

Electrical Engineering & Computer Science Application

Betty Coffey used the feedback lecture for large classroom instruction in introductory computer programming classes at Montana State University. The CS 101 course was offered for engineering and science students. CS 111 was offered for the general student and little math background was expected. Professor Coffey had been a high school teacher and had especially valued individual contact with students. She was dissatisfied with the traditional lecture because it was so difficult to know if the students understood the ideas that were presented.

Coffey attended a workshop presented by Dean Osterman for the Montana State University Faculty. She immediately applied the workshop ideas to a summer school class she was teaching, developing abbreviated feedback lecture study guides. Each of these guides contained an introduction, objectives, a glossary of terminology, lecture outlines, discussion questions, and feedback sheets.

Coffey was delighted with student activity and enthusiasm. The summer school students made recommendations and Coffey used their ideas to rewrite the study guides and modify her lectures. The new guides were used in the fall with classes of 150 and 110 students. Student response was overwhelmingly positive. Their comments at the end of the courses are summarized below:

1. Students' notes were better organized.
2. Students appreciated knowing what to expect in the next lecture.
3. Students were better able to study for tests.
4. The examples in the study guide were helpful to students writing their own programs.
5. All the notes were more ordered, extensive, and precise, enabling the student to pay closer attention to the lecture. Students did not have to write as much since the programs and examples were included in the guide.

Comments about the discussion questions and small group work included: "Renews interest, stops boredom," "Answering questions produces a feeling of understanding," "Helps students to get involved," "Gets you thinking about the lecture and listening closely." Very few students preferred taking their own notes or listening to a traditional lecture.

Based on the student evaluations and comments, Coffey decided to incorporate the discussion questions into the study guides. The questions are used as an aid to learning and not for test purposes.

Coffey, like Christensen, recommended that instructors who are interested in developing feedback lectures should do so gradually, starting by incorporating discussion questions and then by writing the lecture outlines for particular units or topics.

References

McCarthy, B. (1981). **The 4 Mat System**. Oak Brook, IL: Excel, Inc.

Osterman, D. (1978). Selection and evaluation of alternative teaching methods in higher education. In R.K. Bass and D.B. Lumsden (Ed.). **Instructional development: The state of the art**. Columbus, OH: Collegiate Publishing, Inc.

Osterman, D. (1980). **Feedback lecture: The process and components**. Corvalis, OR: Instructional Development Office, Oregon State University.

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